DANIEL JOHNSON, JR. (SBN 57409)
BRETT M. SCHUMAN (SBN 189247)
MORGAN, LEWIS & BOCKIUS LLP
One Market, Spear Street Tower
San Francisco, CA 94105-1126
Tel: 415.442.1000
Fax: 415.442.1001
djjohnson@morganlewis.com
bschuman@morganlewis.com

ANDREW J. WU (SBN 214442)
DAVID V. SANKER (SBN 251260)
MORGAN, LEWIS & BOCKIUS LLP
2 Palo Alto Square
3000 El Camino Real, Suite 700
Palo Alto, CA 94306-2122
Tel: 650.843.4000
Fax: 650.843.4001
awu@morganlewis.com
dsanker@morganlewis.com

Attorneys for Plaintiffs and Counterdefendants
ALPHA & OMEGA SEMICONDUCTOR, LTD.
ALPHA & OMEGA SEMICONDUCTOR, INC.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ALPHA & OMEGA SEMICONDUCTOR, LTD., a Bermuda corporation; and ALPHA & OMEGA SEMICONDUCTOR, INC., a California corporation,

Plaintiffs and Counterdefendants,

v.

FAIRCHILD SEMICONDUCTOR CORP., a Delaware corporation,

Defendant and Counterclaimant.

AND RELATED COUNTERCLAIMS.

Case No. C 07-2638 JSW
(Consolidated with Case No. C-07-2664 JSW)

DECLARATION OF C. ANDRE T. SALAMA, PH.D. IN SUPPORT OF ALPHA & OMEGA SEMICONDUCTOR, LTD AND ALPHA & OMEGA SEMICONDUCTOR, INC'S REPLY CLAIM CONSTRUCTION BRIEF PURSUANT TO PATENT L.R. 4-5(C)

Date: June 4, 2008
Time: 2:00 PM
Place: Courtroom 2, 17th Floor
Judge: Honorable Jeffrey S. White

I, C. Andre T. Salama, hereby declare as follows:

1. I am a University Professor (Emeritus) at the University of Toronto in the Department of Electrical and Computer Engineering, 10 King's College Road, Toronto, Ontario, M5S 3G4, Canada. I have been retained as a consultant for the Plaintiffs and counterdefendants Alpha & Omega Semiconductor, LTD and Alpha & Omega Semiconductor, Inc., in the present action. I submit this declaration in support of Alpha & Omega Semiconductor, LTD and Alpha & Omega Semiconductor, Inc.'s Reply Claim Construction Brief Pursuant to Patent L.R. 4-5(c).

2. Attached hereto as exhibit A is a true and correct copy of my Curriculum Vitae as of October, 2007.

'567 Patent

3. The specification of U.S. Patent No. 5,767,567 includes a description of the preferred embodiments in Figures 2C and 2D at Column 5, Lines 15 – 57. The embodiments in Figures 2C and 2D are alternate embodiments similar to those shown in Figures 2A and 2B, except that the gate runners 140 are arranged differently. '567 patent at 5:15 – 18. Although some of the lead wires are incorrectly labeled "170" rather than "160" in Figures 2C and 2D, these embodiments clearly include lead wires attached to the source contact area. Further, the patent consistently describes the lead wires as "160" and the lead wire contact points as "170" throughout the specification. It is thus apparent to one skilled in the art that Figures 2C and 2D were intended to have the same labeling as Figure 2B. In addition, the example area proportional ratios 4:4:4:3, at 5:54, does not limit the description in the specification to any one embodiment.

4. The invention of the '567 patent does not require determining the number of lead wires prior to configuring the gate runners. The invention of the '567 patent improved over the prior art by proposing several methods of distributing the lead wires over the source contact area of the device so that the distance current must travel is minimized, including the method of distributing and configuring the lead wires so that the number of lead wires is proportional to the contact areas. E.g., '567 patent at col. 3:67-col. 4:60. This aspect of the invention is recited in claim 7.

5. As long as distribution of the lead wires is achieved, it makes no difference whether the number of lead wires is determined prior to configuring the gate runners, or vice versa. One can configure the gate runners and then determine a number of lead wires to be applied in ratios proportional to the areas of the sub-contact areas, or determine the number of lead wires and then configure the gate runners. For example, one could divide a contact area into 4 equal sub-contact areas, identify the area proportional ratios as 1:1:1:1, and subsequently determine the number of lead wires and divide those lead wires according to the area proportional ratio of 1:1:1:1. Fairchild's argument that the method "would not work" and "would be impossible" unless the number of lead wires is first determined is simply incorrect.

'630 Patent

6. In 1997, when the application for the '630 patent was filed, the process of defining gates in trenched-gate power MOSFET devices was well-known. A person skilled in the art could readily practice the invention with trenched-gate MOSFET devices based on the teaching in the specification of the '630 patent.

'776 Patent

7. "Compensating" the body region of a MOSFET device involves implanting ions of opposite conductivity type into the body region. During ion implantation, ions will penetrate to various depths, as depicted by the dotted curves 70A, 70B, and 70C in Figure 5 of the '776 patent. The ions that reach the body region compensate the body region; the ions that come to rest in the source region do not compensate the body region. "Compensation" is thus determined by where the physical ions penetrate.

8. Fairchild's proposal to define compensation by the "peak concentration" is both scientifically incorrect and contrary to the specification of the '776 patent. First, both the claims and the specification state that compensation implies "implanting material of said second conductivity type in said body region." '776 patent at 3:55 – 58; 9:14 – 16. That is, compensation involves physically locating the compensating ions. Second, the usage of "compensating" in the patent is consistent with the standard meaning of the term. One skilled in the art identifies a compensated semiconductor region based on the overall distribution of ions in

that region, not on whether the "peak concentration," corresponding to the statistical average penetration depth during implantation, is in that region.

9. Each of the individual profiles 70A, 70B, and 70C in Figure 5 compensates the body region because each of these implants introduces "material of said second conductivity type in said body region." '776 patent at Figures 4 and 5, 9:14 – 16. However, different percentages of the ions from these implants come to rest in the body region. For implant 70C, most of the ions are in the body; for implant 70B about half of the ions are in the body; and for implant 70A only a small portion of the ions end up in the body. Each of these implants compensates the body because some of the ions penetrate to the body. In particular, implant 70A does partially compensate the body. Further, the inclusion of 70A in the compensation curve 70 makes this clear: if 70A did not partially compensate the body, it would be a useless implant.

10. Although individual implants produce bell curves with peaks, a combined curve from multiple implants may not have a well-defined peak. Depending on the depths and dosages of the individual implants, as well as the annealing temperature and duration, the resultant combined curve may look very different from that of a single implant. In the Figure 5 example, there are three implants with the center implant having a higher in amplitude than the other two. This results in curve 70 having a single peak. However, the patent does not require three implants, and does not require any implant to have a higher amplitude than the others. '776 patent at 7:47 – 51. If implant 70B had a smaller amplitude, for example, the resultant could have a relatively flat center portion, without a clear peak.

/////

/////

/////

/////

/////

/////

/////

/////

I declare under of penalty of perjury that the foregoing is true and correct.

Dated: April 7, 2008

by A Salama

C. Andre T. Salama, Ph.D.